

REMARKS

Summary

Claims 1, 2, 9, 10, 36 and 68-69 were pending. Claims 1, 2, 9, 10, and 36 were rejected. Claims 1 and 36 have been amended; new Claim 70 has been introduced. No new matter has been introduced. Claims 1, 2, 9-10, 36 and 68-70 are pending after the entry of this amendment. The Applicants have carefully considered the references and reasons advanced by the Examiner and respectfully traverse the rejections in view of the amendments and the discussion presented below.

Comments on Examiner's Response to Arguments

The Examiner asserts that the arguments the Applicants have previously presented are moot in view of the new grounds for rejection. As the previous amendment and response did not result in the amendment of any of Claims 1, 2, 9, 10 and 36, it must be presumed that the Examiner has *de facto* accepted the validity of the arguments made by the Applicants in the response filed on April 14, 2004, and that those rejections are considered to have been withdrawn on their merits; else, there is no reason for the new rejections made in the present Office Action.

Claim Rejections

35 U.S.C. § 102 (b)

Claims 1-2 and 36 were rejected under 35 U.S.C. § 102 (b) as anticipated by any one of Kishima (US 3,909,643; "Kishima"), Barge (US 4,459,087; "Barge") and Schaeffer (US 4,315, 171; "Schaeffer"). An amendment has been made to Claim 1 in order to clearly distinguish subject matter of the present application from each of the references cited.

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*" Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir 1984) (citing Connell v. Sears Roebuck & Co. 722 F.2d 1542 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added).

Amended Claim 1 recites, *inter alia*, a stator having a stator core that includes a plurality of magnetic pole teeth opposing a circumference of the rotor, a single coil being provided on each of the magnetic pole teeth.

Kishima Fig. 1) teaches that some teeth have no coils (t_1), some teeth have two coils (e.g., t_2 ; L1,L4), and some teeth have three coils(e.g., t_3 ; L1, L2, L5). Since Kishima does not teach the identical arrangement to amended Claim 1 it is not anticipated by the reference.

Amended Claim 1 also recites, *inter alia*, the magnetic pole teeth each having a rotor-opposing surface, and an angular pitch of the rotor-opposing surfaces and an angular pitch of the permanent magnet poles, as measured about an axis of symmetry of the rotor, differ from each other.

Barge teaches (Fig. 1) a motor in which the magnets on the rotor are disposed facing the magnetic pole pieces, and the angular spacing of both the magnets and magnetic pole pieces is the same. Since Barge does not teach the identical arrangement to amended Claim 1 it is not anticipated by the reference. Fig. 5, cited by the Examiner, does not address this limitation.

Schaeffer teaches "each pole group having a plurality of poles of the same pitch or spacing as the rotor poles" (Shaeffer, col. 3, lines 16-17). Thus, the pitch of the rotor poles and the stator poles is the same. Since Schaeffer

does not teach the identical arrangement to amended Claim 1, it is not anticipated by the reference.

Hence, amended Claim 1 is not anticipated by any of the references cited, and is thus allowable. Claims 2 and 9-10, being dependent on an allowable claim are, without more, allowable. Claim 36 has been amended to incorporate the same features added to Claim 1, and is not anticipated for the same reasons as previously given.

35 U.S.C. § 103 (a)

Claims 9 and 10 were rejected under 35 U.S.C. §103 (a) as unpatentable over Kishima in view of Tajima et al. (US 5,432,644; "Tajima"); Claims 1, 2 and 36 were rejected under 35 U.S.C. §103 (a) over Brown et al. (US 4,553,075; "Brown") in view of Barge; and Claims 1, 2, and 36 were rejected under 35 U.S.C. §103 (a) as being unpatentable over Lehman et al. (US 2,867,762; "Lehman") in view of Boudigues (US 3,375,422; "Boudigues").

Claims 9-10 are claims dependent on an allowable base claim and are, without more, allowable.

With respect to Claim 1, Brown teaches that each stator pole is provided with two electrically independent windings (col. 3, lines 59-63), which differs from that of the arrangement of Claim 1. If Brown was modified to have only a single coil per stator, the resultant structure would be inoperative as a motor in the arrangement taught by Brown. An inoperable primary reference cannot be used to make out a case of obviousness. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). As such there is no suggestion or motivation to make the modification suggested by the examiner.

Further, with respect to Claim 1, Lehman (Fig. 1) teaches a motor 10 having an angular pitch of the rotor-opposing surfaces and an angular pitch of the permanent magnet poles, as measured about an axis of symmetry of the rotor, which are the same. This is the inverse of the arrangement of Claim 1. Boudiques is cited as a reference only with respect to the use of permanent magnets. Hence, the combination of the references does not teach or suggest all of the elements and limitations of Claim 1, in particular that the angular pitch of the permanent magnet poles and the rotor-opposing surfaces have different pitches, and it is therefore not obvious.

Claim 2 is dependent on allowable Claim 1 and is, without more, allowable. Claim 36 has been amended to incorporate the same features added to Claim 1, and is not obvious for the same reasons as previously given.

Other Claims

Claims 68-69 were presented in the amendment accompanying the RCE, and were not rejected in the present Office Action. The Applicant respectfully requests that their allowance be confirmed.

New Claim 70 is presented. Support for this claim is found, for example, at page 30, line 9.

Conclusion

Claims 1, 2, 9-10, 36, 68-70 are pending.

For at least the reasons given above, the Applicant respectfully submits that Claims are allowable.

The Examiner is respectfully requested to contact the undersigned in the event that a telephone interview would expedite consideration of the application.

Respectfully submitted,



Anthony P. Curtis, Ph.D.
Registration No. 46,193
Agent for Applicant

BRINKS HOFER GILSON & LIONE
P.O. BOX 10395
CHICAGO, ILLINOIS 60610
(312) 321-4200